ABSTRACT

Method for determining a state variable x from at least one sensor value by a cost function prepared for a measured value y for implementation in an arithmetic unit of a sensor system having at least one sensor and wherein the cost function depends on the respective state x to be measured and gives a deviation of an actual measured value from the calibration as a function of state x in order to determine the sought state x from this minimum. For the cost function, at least one approximation function is set up on the basis of at least one approximation region within the state region x, by which an approximation of the cost function is carried out with approximation functions with negligible error, wherein the sums of the approximation regions cover the entire relevant state region, and at least all local minima are determined on the basis of the approximation, in a selection of approximation regions, wherein optionally a global minimum is determined from the comparison of local minima.